City of San José, California
CITY COUNCIL POLICY

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POST-CONSTRUCTION URBAN RUNOFF MANAGEMENT	**EFFECTIVE DATE** February 3, 1998	**REVISED DATE** August 15, 2006

APPROVED BY COUNCIL ACTION
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BACKGROUND

The Federal Clean Water Act requires local municipalities to implement measures to control pollution from their storm sewer systems to the maximum extent practicable. Under the auspices of the Clean Water Act, as well as other Federal and State legislation since 1990, the San Francisco Regional Water Quality Control Board (RWQCB) has issued and reissued an area-wide National Pollutant Discharge Elimination System (NPDES MS4) Permit to the fifteen Co-permittees of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) for the discharge of storm water from urban areas in Santa Clara County. The fifteen SCVURPPP Co-permittees are the City of San Jose, twelve other municipalities within the Santa Clara Basin watershed area, the County of Santa Clara, and the Santa Clara Valley Water District.

Under the provisions of the SCVURPPP Permit, each of the Co-permittees, including the City of San Jose, is required to ensure the reduction of pollutant discharges from new and redevelopment projects, to the maximum extent practicable, through incorporation of treatment and other appropriate source control and site design measures. The SCVURPPP NPDES Permit New and Redevelopment permit provision further establishes minimum design criteria and maintenance requirements for such measures in certain types of development projects.

PURPOSE

It is the purpose of this Policy to establish an implementation framework, consistent with SCVURPPP NPDES MS4 Permit requirements, for incorporating storm water runoff pollution control measures into new and redevelopment projects to reduce storm water runoff pollution from such projects to the maximum extent practicable.

POLICY

The Policy requires all new and redevelopment projects to implement Post-Construction Best Management Practices (BMPs) and Treatment Control Measures (TCMs) to the maximum extent practicable. This Policy also establishes specified design standards for Post-Construction TCMs for Applicable Projects defined as:

> **Applicable Project:** new development project that creates ten thousand (10,000) square feet or more of Impervious Surface Area; new streets, roads, highways and freeways built under the City's jurisdiction that create ten thousand (10,000) square feet or more of Impervious Surface Area and Significant Redevelopment Projects.

The policy also establishes minimum Post-Construction TCMs and BMPs for all Land Uses of Concern, including Expansion Projects. This Policy further establishes the criteria for determining the situations in which it is impracticable to comply with the design standards for Applicable Projects, including the criteria for evaluating the equivalency of Alternative Compliance Measure(s).

At the City's discretion, if it determines that installation of Post-Construction TCMs is impracticable in a specific project, it may approve a request that a proposed project may provide an Alternative Measure, as defined below, in lieu of demonstration compliance with the numeric sizing standard, (where installation of Post-Construction TCMs are impracticable).

GENERAL GUIDELINES

All projects shall be encouraged to minimize impervious surface through techniques such as those described in the Bay Area Storm Water Management Agencies Association's (BASMAA's) "Start at the Source Design Guidance Manual for Stormwater Quality protection," 1999 edition, and the SCVURPPP Stormwater Handbook, including the use of permeable pavement, where appropriate.

Vegetative swales or other biofilters are recommended as the preferred choice for Post-Construction TCMs for all projects with suitable stormwater quality and landscape areas, because these measures are relatively economical and require limited maintenance. For projects where landscape based treatment is impracticable, or insufficient to meet required design criteria, other Post-Construction TCMs should be incorporated.

Projects generating heavy pollutants ("Land Uses of Concern"), including expansion of such uses, shall include Post Construction TCMs and BMPs to treat project specific storm water pollutants as specified in this policy.

All Post-Construction BMPs/TCMs must be maintained to operate effectively.

NUMERIC SIZING CRITERIA FOR POST-CONSTRUCTION TREATMENT CONTROL MEASURES

Applicable Projects shall include Post-Construction TCMs designed to meet one of the following hydraulic sizing standards for treatment of storm water runoff from the Impervious Surface Area of the Project, except as specified in this Policy. Where a Significant Redevelopment Project results in an increase, or replacement, of more than fifty percent (50%) of the Impervious Surface Area of a previously existing development, and the previously existing development was not subject to storm water control measures, the entire Impervious Surface Area of the project site must be included in the application of the sizing design standard. Where a Significant Redevelopment Project results in an increase, or replacement, of not more than fifty percent (50%) of the Impervious Surface Area of a previously existing development, and the previously existing development was not subject to storm water control measures, only the net new Impervious Surface Area must be included in the application of the sizing design standard. Roof area that is not connected to downspouts and instead drains to properly sized and designed Post-Construction TCMs, may be excluded from the project square footage calculation for the purpose of determining whether additional treatment is required..

i. Volume Hydraulic Design Basis: Treatment control measures whose primary mode of action depends on volume capacity, such as detention/retention units or filtration or infiltration devices (including, insert filters and oil/water separators), shall be designed to treat storm water runoff equal to:

a. the maximized storm water quality capture volume for the area, based on historical rainfall records, determined using the formula and volume capture coefficients set forth in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (199*8), pages 175-178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or

b. the volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Appendix D of the *California Stormwater Best Management Practices Handbook*, (1993), using local rainfall data.

ii. Flow Hydraulic Design Basis: Treatment control measures whose primary mode of action depends on flow capacity, such as vegetative swales, sand filters, or wetlands, shall be sized to treat:

a. 10% of the 50-year peak flow rate; or

b. the flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or

c. the flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity**.**

Project applicants will be responsible for verifying the rainfall data used to meet the above criteria and for providing engineering certification that the criteria have been met.

Post-Construction Treatment Control Measure Tree Credit will be provided for new trees planted within 30 feet of impervious surfaces and for existing trees kept on a site if the trees' canopies are within 20 feet of impervious surfaces.

Development of one single-family home is excluded from the requirement to implement appropriate storm water runoff treatment control measures, with the incorporation of appropriate pollutant source control and design measures, and using landscaping to appropriately treat runoff from roof and house associated Impervious Surface (e.g. runoff from roof, patios, driveways, sidewalks and similar surfaces.)

MINIMUM TCMs and BMPs FOR LAND USES OF CONCERN

Gas Stations or Equipment Fueling Facilities: All new fueling stations or expansion of such uses should include the following BMPs: 1) Install and maintain a treatment control measure. 2) Pave the fueling area floors with an impermeable surface (i.e., portland cement concrete or equivalent smooth Impervious Surface). 3) Cover the fueling areas with a canopy or cover that extends a minimum of ten feet in each direction from each pump. Alternatively, cover the fueling areas with a canopy or cover that has minimum dimensions equal to or greater than the area within the grade break or fuel dispensing area. (The fuel dispensing area is defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater. In no case should the canopy or cover drain onto the fueling area.) 4) Grade the fuel area to prevent water draining toward the fueling area. 5) Grade the fuel area with the minimum slope necessary to prevent ponding. 6) Separate the fueling area from the rest of the site by a grade break that prevents run-on of storm water to the maximum extent practicable. 7) Dry sweep the fueling area routinely. 8) Stencil all on-site storm drains in conformance with the City's requirements. 9) Prepare a spill cleanup plan in conformance with the City of San Jose Fire Code.

Auto Wrecking Yards: All new auto wrecking yards or expansion of such uses should include the following: 1) install and maintain a treatment control measure; 2) pave all outside vehicle storage areas; 3) cover fluids drainage areas; 4) pave fluids drainage areas with impermeable materials; 5) construct a berm around fluids drainage areas and grade the site to prevent water draining toward this working area; 6) remove and store batteries

in conformance with the City Fire Code; and 7) prepare and execute the spill prevention plan in conformance with the City Fire Code.

Loading Docks: All new loading docks or expansion of such uses should include the following: 1) pave the loading dock floor with an impermeable surface; 2) cover the loading dock; 3) grade the site to minimize run-on to and runoff from the loading area; 4) position roof downspouts to direct storm water away from the loading area; 5) drain water from the loading dock areas to the sanitary sewer, or divert and collect the water for ultimate discharge to the sanitary sewer; 6) equip loading dock areas draining directly to the sanitary sewer with a spill control valve or equivalent device that is kept closed during periods of operation; 7) install door skirts between the trailers and the building to prevent exposure of loading activities to rain.

Other Unenumerated Land Uses of Concern: Other Land Uses Of Concern generating amounts of heavy pollutants equivalent to the above uses, including expansion of such uses, may need to include specific BMPs to treat storm water pollutants. Examples of such uses include heavy automotive uses, vehicle or equipment maintenance areas, including washing and repair; outdoor handling or storage of waste or hazardous materials; outdoor manufacturing area(s); outdoor food handling or processing; outdoor animal care; outdoor horticultural activities; and various other heavy industrial and commercial uses. The BMPs for such uses would be determined in conjunction with the development permit for the project.

LIMITATIONS ON USE OF INFILTRATION TREATMENT MEASURES - INFILTRATION AND GROUNDWATER PROTECTION

In order to protect groundwater from pollutants that may be present in urban runoff, treatment control measures that function primarily as direct infiltration devices (such as infiltration trenches and infiltration basins) must meet, at a minimum, the following conditions:

i. Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration devices are to be used.

ii. Use of infiltration devices shall not cause or contribute to degradation of groundwater water quality objectives.

iii. Infiltration devices shall be adequately maintained to maximize pollutant removal capabilities.

iv. The vertical distance from the base of any infiltration device to the seasonal high groundwater mark shall be at least 10 feet.

v. Unless storm water is first treated by a means other than infiltration, infiltration devices shall not be recommended for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway; automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; or any other land use or activity which may pose a high threat to groundwater quality, as designated by the City.

vi. Infiltration devices shall be located a minimum of 100 feet horizontally from any known water supply wells.

ALTERNATIVES TO NUMERIC SIZING STANDARDS FOR POST-CONSTRUCTION TREATMENT CONTROL MEASURES

Where installation of Post Construction TCMs are impracticable as defined below, at the City's discretion, projects may provide an Alternative Measure, also defined below, in lieu of demonstrating compliance with the numeric sizing standard.

i. **Impracticability** - compliance with numeric sizing standard may be found impracticable if any one of the following conditions is shown to exist:

a. Inadequate space or soil conditions for numerically sized Post-Construction TCMs, such as a high density project with inadequate landscape area for numerically sized landscape based TCMs, or a project on site with geotechnical constraints to the use of landscape based TCMs, including a project in an area where infiltration would not be permitted and other means of meeting hydraulic sizing requirements are impracticable for cost or regulatory reasons (see below);

b. Projected cost of the required measure (cost of labor and materials for the treatment measure) would exceed two percent (2%) of Total Project Costs;

c. Installation of measures would result in the inability of the project sponsor or City to comply with other regulatory requirements at the federal, state and local levels (for example, building code requirements).

ii. Alternative Measures - Applicable Projects that are not required to provide hydraulically sized Post-Construction Treatment Control Measure(s) on-site due to impracticability must provide equivalent protection or enhancement of water quality/beneficial uses through one of the following Alternative Measures:

a. Regional BMP or TCM. Participation in a Regional BMP or TCM that has capacity/credit to address storm water impacts equivalent to the impacts produced by the subject Applicable Project. Where feasible, the Regional Project must discharge to/address the receiving waters affected by the subject Applicable Project.

b. Water Quality Benefit Project. In its discretion, the City may find that Smart Growth Projects provide equivalent water quality benefit. For other projects, the City may find that equivalent benefit is where the project sponsor provides project and/or environmental (CEQA) documentation showing that the development of the site itself, the nature of the site design, its location in the watershed and/or the proposed change in use protects/enhances water quality/beneficial uses such that post-project water quality/beneficial uses conditions are likely to equal or exceed pre-project conditions.

At the City's discretion it may make findings that a Smart Growth project provides equivalent water quality benefit if the City first determines that it would be impracticable to install hydraulically sized Post-construction TCMs.

c. Equivalent Project - The project provides off-site treatment for an equivalent surface area, pollutant loading or volume of storm water runoff. Equivalent projects may include off-site treatment, stream restoration or other activities that limit or mitigate impacts from excessive erosion or sedimentation.

OPERATION AND MAINTENANCE

All Post-Construction Treatment Control Measures included in new projects must be installed, operated, and maintained by qualified personnel. On-site inlets must be stenciled in conformance with City requirements and cleaned out at least once per year, prior to the wet season.

The property owner/site manager must keep a maintenance and inspection schedule and record to ensure that the treatment control measures continue to operate effectively. Copies of this schedule and record must be provided to the City upon request, and must be made available for inspection at the site at all times.

Trees approved for Post-Construction TCM Credit shall be maintained and protected on the site after construction and for the life of the development (until any approved redevelopment occurs in the future). During the life of the development, trees approved for Post-Construction TCM Credit shall not be removed without approval from the City.

Trees that are removed or die shall be replaced within six (6) months with species approved by the City of San Jose.

DEFINITIONS

***Applicable Project* :** New development project that creates ten thousand (10,000) square feet or more of Impervious Surface Area; new streets, roads, highways and freeways built under the City's jurisdiction that create ten thousand (10,000) square feet or more of Impervious Surface Area and Significant Redevelopment Projects.

Brownfields Project: A project located on a site where expansion of a use, redevelopment or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant.

Expansion Projects: Projects involving a Land Use of Concern (see below) and proposing expansion of fifty percent (50%) or more of the previously existing built development, site area, or use. An Expansion Project may also include a change of use on an existing site when no new buildings or pavement are proposed if that change results in the potential for increases in the deposition of Pollutants of Concern on the site.

Housing Development Project: A use consisting of either of the following: (a) residential units only; (b) mixed-use developments consisting of residential and nonresidential uses in which nonresidential uses are limited to neighborhood commercial uses and to the first floor of buildings that are two or more stories. As used in this paragraph, "neighborhood commercial" means small-scale general or specialty stores, restaurants, offices, and other commercial uses permitted in the CP-Commercial Pedestrian zoning district that furnish goods and services primarily to residents of the neighborhood; "neighborhood" means a planning area commonly identified as such in a community's planning documents, and identified as a neighborhood by the individuals residing and working within the neighborhood. Documentation demonstrating that the area meets the definition of neighborhood may include a map prepared for planning purposes that lists the name and boundaries of the neighborhood.

Impervious Surface: Any surface on or above ground that prevents the infiltration or passage of water into the soil. Impervious surfaces include, but are not limited to, non-absorbent rooftops, paved or covered patios, driveways, parking lots, paved walkways, compacted soil or rock, and streets. This category includes streets, roads, highways, and freeways that are under the City of San Jose's jurisdiction and that create one acre (43,560 square feet) or more of new impervious surface and any newly constructed paved surface used primarily for the transportation of automobiles, trucks, motorcycles, and other motorized vehicles. Excluded from this category are public sidewalks, bicycle lanes, trails, bridge accessories, guardrails, and landscape features.

Single-Family Home: A project or project expansion consisting of one single-family home that is not part of a larger common plan of development.

Pollutants of Concern: Identified Pollutants of Concern in the SCVURPPP Permit include certain heavy metals (copper, nickel and mercury), excessive sediment production from erosion due to anthropogenic activities, petroleum hydrocarbons from sources such as used motor oil, microbial pathogens of domestic sewage origin from illicit discharges, the pesticides diazinon, chlordane, dieldrin and DDT, excessive nutrient loads which may cause or contribute to the depletion of dissolved oxygen and/or toxic concentrations and dissolved ammonia, and other pollutants which may cause aquatic toxicity in the receiving waters.

Post-Construction Best Management Practice (BMP): A method, activity, maintenance procedure, or other management practice designed to reduce the amount of stormwater pollutant loading from a site. Examples of Post-Construction BMPs include proper materials storage and housekeeping activities, public and employee education programs, and storm inlet maintenance and stenciling.

Post-Construction Treatment Control Measure: A site design measure, landscape characteristic or permanent storm water pollution prevention device, installed and maintained as part of a new development or redevelopment project, that is designed to reduce storm water pollutant loading from a site; is installed as part of a new development or redevelopment project; and is maintained in place after construction has been completed. Examples of runoff treatment control measures include filtration and infiltration devices (e.g., vegetative swales/biofilters, insert filters, and oil/water separators) or detention/retention measures (e.g., detention/retention ponds). Post-Construction Treatment Control Measures are a category of BMPs.

Regional BMP or TCM: Regional or municipal storm water detention/treatment facilities, or land acquisition/conservation programs that protect or enhance water quality/beneficial uses, or other specific projects/programs (or designated functions/components of projects/programs) that protect or enhance water quality/beneficial uses, and that are specifically identified as eligible alternative compliance options in the annual Workplan submitted by the City pursuant to the SCVURPPP Permit.

Significant Redevelopment Projects: A project on a previously developed site that results in addition and/or replacement of 10,000 square feet or more of Impervious Surface Area. Interior remodel, routine maintenance or repair, and exterior surface replacement or repaving are expressly excluded from this definition. Also excluded from this category are pavement resurfacing, repaving and road pavement structural section rehabilitation within the existing footprint, and any other reconstruction work within a public street or road right-of-way where both sides of that right-of-way are developed.

Smart Growth Projects: A project meeting one or more of the following criteria:

a. Significant Redevelopment Project within the Urban Core;

b. Low-income, moderate-income, or senior Housing Development Project, meeting one of the criteria of Government Code Section 65589.5 (h) (3) or (4) or 65915(b);

c. Brownfields Project.

Total Project Cost: Includes the construction (labor) and materials cost of the physical improvements proposed; but does not include land, transaction, financing, permitting, demolition or off-site mitigation costs.

Post-Construction Treatment Control Measure Tree Credit. 100 square feet of Credit may be given for each new deciduous tree, and 200 square feet of Credit may be given for each new evergreen tree. The Credit for existing trees is the square-footage equal to one-half of the existing tree canopy. No more than 25% of a site's Impervious Surface can be treated through the use of trees. The trees selected shall be suitable species for the site conditions and the design intent. Trees should be relatively self-sustaining and long-lived. Protection during construction shall be in the form of minimizing disruption of the root system.

Trees required by the City of San Jose for tree removal mitigation, to fulfill City of San Jose street tree requirements, or to meet storm water treatment facility planting requirements will not count toward Post-Construction Treatment Control Measure Credit.

Urban Core: Project (1) located within 1/4 mile of an existing or planned light rail, bus, heavy rail or intermodal station (not including simple bus stops that are not stations), terminal, Covered transfer point, or having a project-dedicated van or bus shuttle service station; (2) in an area designated on the San Jose General Plan Land Use/Transportation Diagram for Transit Corridor Residential (20+ DU/AC), Residential Support for the Core (25+ DU/AC), Downtown Core Area, Downtown Frame Area, Neighborhood Business District, Transit-Oriented Development Corridor, or BART Area Node; or (3) on sites less than or equal to five acres, in areas designated by the City Council for density intensification such as sites subject to the update to the North San Jose Area Development Policy and involving commercial or industrial redevelopment that will increase the floor area ratio from less than 1 to greater than 1.